AMENDMENTS TO THE CLAIMS

Claim 1 (Currently Amended) A microstrip patch antenna, comprising:

a lower patch antenna layer having a dielectric layer and a ground plane, for radiating energy by exciting current by a feeding means electrically connected to a lower radiating patch on a side of the dielectric layer;

~~an upper patch antenna layer having a dielectric film, for radiating energy by exciting current by the lower radiating patch electromagnetically connected to an upper radiating patch on a side of the dielectric film;~~

a foam layer for distancing the upper patch antenna layer from the lower patch antenna layer by arranging the foam layer between the lower patch antenna layer and the upper patch antenna layer; ~~and~~

a dielectric film on the foam layer;

an upper patch antenna layer having a dielectric film, for radiating energy by exciting current by the lower radiating patch electromagnetically connected to an upper radiating patch on a side of the dielectric film; and

a dielectric superstrate located ~~with~~ a predeteremined distance ~~from~~ above the upper patch antenna layer.

Claim 2 (Original) The apparatus as recited in claim 1, wherein the upper radiating patch is stacked upon the lower radiating patch.

Claim 3 (Original) The apparatus as recited in claim 1, wherein the thickness and the dielectric constant of the dielectric superstrate determine the bandwidth and gain of the microstrip patch antenna.

Claim 4 (Original) The apparatus as recited in claim 3, wherein as the thickness of the dielectric superstrate becomes thicker and the dielectric constant of the dielectric superstrate is increased, the gain of the antenna tends to be higher and the bandwidth of the antenna tends to be narrower.

Claim 5 (Original) The apparatus as recited in claim 1, wherein the predetermined distance between the upper patch antenna layer and the dielectric superstrate largely affects the resonant characteristics of the microstrip patch antenna.

Claim 6 (Currently Amended) A microstrip array antenna having a plurality of microstrip patch antennas, each of the microstrip patch antenna comprising:

a lower patch antenna layer having a dielectric layer and a ground plane, for radiating energy by exciting current by a feeding means electrically connected to a lower radiating patch on a side of the dielectric layer;

~~an upper patch antenna layer having a dielectric film, for radiating energy by exciting current by the lower radiating patch electromagnetically connected to an upper radiating patch on a side of the dielectric film;~~

a foam layer for distancing the upper patch antenna layer from the lower patch antenna layer by arranging the foam layer between the lower patch antenna layer and the upper patch antenna layer; ~~and~~

a dielectric film on the foam layer;

an upper patch antenna layer having a dielectric film, for radiating energy by exciting current by the lower radiating patch electromagnetically connected to an upper radiating patch on a side of the dielectric film; and

a dielectric superstrate located ~~with~~ a predeteremined distance ~~from~~ above the upper patch antenna layer,

wherein the microstrip array antenna is designed using a corporate feeding method and an element spacing of the microstrip patch antennas is more than 1λ0 at 12GHz to minimize the coupling between the microstip patch antennas, wherein although the element spacing in the array is wider than the wavelength at 12GHz in free space, the grating lobes can be reduced by the dielectric superstrate.